

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re:	Barocela	Confirmation No.:	1685
Appl No.:	10/811,735	Group Art Unit:	3644
Filed:	03/29/2004	Examiner:	Dinh, Tien Quang
For:	HIGH SPEED MISSILE WING AND ASSOCIATED METHOD		

Docket No.: 038190/274032  
Customer No.: 00826

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**DECLARATION UNDER 37 C.F.R. § 1.131**

Sir:

I, Edward Barocela, hereby declare and state that:

1. I am the inventor of the claimed invention of the above-identified U.S. Patent Application Serial No. 10/811,735.

2. I have read and understand U.S. Patent No. 6,923,404 to Liu et al. ("Liu"), which was filed January 10, 2003 and issued August 2, 2005, and U.S. Patent No. 6,601,795 to Chen ("Chen"), which was filed August 23, 2002 and issued August 5, 2003. Liu and Chen were relied upon by the Examiner in the final Official Action mailed November 15, 2006 as disclosing or suggesting independent Claims 1 and 16 of the above-referenced application. This Declaration is filed to establish actual reduction to practice prior to the filing date of Liu and prior to the issue date of Chen.

3. Prior to January 10, 2003, the filing date of Liu, and August 5, 2003, the issue date of Chen, I actually reduced the claimed invention to practice. In particular, I constructed a

prototype that worked for its intended purpose, as described below, thereby reducing to practice my invention as described and claimed in the subject application, which is generally directed to a missile and missile system. In support of this statement, I have attached Exhibits 1 and 2. Although the dates of Exhibits 1 and 2 are not shown, these exhibits are dated prior to both January 10, 2003 and August 5, 2003 (*See MPEP § 715.07: Establishment of Dates*).

4. In support of the foregoing statement regarding actual reduction to practice, I hereby submit the best available copy of the following documents:

- a. Exhibit 1 – Presentation illustrating the internal components and design specifications of a missile according to one embodiment of the claimed invention.
- b. Exhibit 2 – Presentation describing and illustrating experimental results of a wind tunnel test using a scaled representative model of a missile having a pivotable oblique wing.

5. Exhibits 1 and 2 provide support that I reduced to practice the missile and missile system of the claimed invention that generally includes an oblique wing that is pivotable from a position substantially aligned with a fuselage member to a predetermined sweep angle at transonic speed during flight.

6. More specifically, Exhibits 1 and 2 disclose a missile and a missile system of at least independent Claims 1 and 16 of the present application. In this regard, Exhibit 1 discloses a missile including a fuselage member configured to carry an engine. In addition, Exhibit 1 discloses a wing actuator carried by the fuselage member and an oblique wing member pivotally connected to the fuselage member. Exhibit 1 further discloses that the wing member is pivotable by the wing actuator from a position substantially aligned with the fuselage member to a predetermined sweep angle of less than 90 degrees at transonic speed during flight. Furthermore, Exhibit 1 discloses a missile releasably attached to an aircraft.

7. Exhibit 2 discloses that the claimed invention was reduced to practice. Namely,

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Exhibit 2 discloses that a scaled representative model of a missile having a pivotable oblique wing according to one embodiment of the claimed invention was tested in a wind tunnel. Exhibit 2 also discloses test results of the experiment, including L/D at various angles of attack and Mach numbers, as well as a comparison of the drag coefficient at various Mach numbers for both conventional and oblique wings.

8. All of the work I did in connection with this invention was carried out in the United States.

9. I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application of any patent issued thereon.

  
Edward Barocela